Contents

Se	Section Page	
1.	Executive Summary	1-1
	1.1 Introduction	1-1
	1.2 Project Overview	1-1
	1.3 Facility Location And Project Site Features	1-3
	1.4 Project Components and Phases	1-4
	1.5 Project Ownership	1-5
	1.6 Project Schedule	1-5
	1.7 Roles and Responsibilities	1-6
	1.8 Project Objectives	1-7
	1.9 Operations of the existing South Bay Power Plant (SBPP)	1-8
	1.10 Regional Energy Needs Met by the New SBRP	1-8
	1.11 Key Project Benefits	1-9
	1.12 SBRP Supported in State Policy on Aging Plant Replacement and Brownfield	<u> </u>
	Development	1-10
	1.13 Project Alternatives	
	1.14 Environmental Considerations	1-11
	1.14.1 Elimination of Once-Thru Cooling	1-12
	1.14.2 Water Resources	1-12
	1.14.3 Air Quality	1-12
	1.14.4 Visual Resources	1-13
	1.14.5 Summary of Improved Uses of Environmental Resources	1-13
	1.14.6 Protecting Local Air Quality and Public Health	1-14
	1.15 Energy Production "Meeting Regional Energy Needs"	1-17
	1.16 Persons Who Prepared the AFC	
	1.17 Laws, Ordinances, Regulations, and Standards (LORS)	1-20
	1.18 Permitting Requirements	1-20
2.	Project Description	2-1
	2.1 Introduction	2-1
	2.1.1 General	2-1
	2.1.2 Elimination of Once-Thru Cooling	2-2
	2.1.3 The Project Will Provide Significant Benefits	2-2
	2.1.4 Project Location	
	2.1.5 Project Phases, and Roles and Responsibilities for Each	2-4
	2.1.6 The Interim and Final Interconnection Steps	
	2.2 Project Objectives, Benefits, and Needs the Project will Meet	
	2.2.1 Background	
	2.2.2 Project Objectives	
	2.2.3 Regional Energy Needs Met by the Project	2-7
	2.2.4 Benefits of the Project	

	2.2.5 Highlights of SBRP's Environmental Design Features	2-22
	2.2.6 Transmission System Losses and Congestion	
	2.2.7 Community Involvement and Dialogue about the Future of the South	
	Bay Power Plant	2-28
	2.2.8 Descriptions of source materials	
	2.3 Generation Facility Description, Design and Operation	
	2.3.1 Overview of Facilities	
	2.3.2 Generating Facility Cycle	
	2.3.3 Facility Layout	
	2.3.4 Combined-Cycle Unit CTGs, HRSGs, and STG2.3.4.1 Combustion	
	Turbine (CTs)	2-40
	2.3.5 Cooling Systems for Heat Rejection	
	2.3.6 Water Supply and Treatment	
	2.3.7 Air Emissions Control and Monitoring	
	2.3.8 Project Noise Control Features	
	2.3.9 Facility Safety and Emergency Systems	
	2.3.10 Facility Auxiliary Systems	
	2.3.11 Major Electrical Systems and Equipment	
	2.3.12 Fuel Types and Uses	
	2.3.13 Plant Reliability and Availability	
	2.3.14 Efficiency	
	2.3.15 Project Civil/Structural Features	
	2.3.16 Project Construction	
	2.3.17 Facility Operation	2-81
	2.4 Transmission Lines Description, Design and Operation	
	2.4.1 Interconnection to the Transmission Grid	
	2.4.2 Delivery of Project Energy	2-82
	2.4.3 Structures	
	2.4.4 Conductors	2-83
	2.4.5 Impact on Existing Transmission System	2-83
	2.4.6 Transmission Line Interconnection Route and Facilities Selection	2-83
	2.5 Demolition of Existing South Bay Power Plant	2-84
	2.5.1 Overview of Demolition Activities	2-84
	2.5.2 Demolition Manpower	2-84
	2.5.3 Demolition Equipment	2-87
	2.5.4 Demolition Schedule	2-87
	2.6 Applicable Laws, Ordinances, Regulations and Standards for Engineering	2-87
	2.6.1 Engineering Geology	2-87
	2.6.2 Civil and Structural Engineering	2-88
	2.6.3 Mechanical Engineering	2-88
	2.6.4 Electrical and Control Systems Engineering	2-88
	2.6.5 Permits	2-88
3.	Demand Conformance	3-1
	3.1 General.	3-1
4	Facility Closure	Λ_ 1
		·····

	4.1 Introduction	4-1
	4.2 Future Closure of the New Generation Facilities	4-1
	4.2.1 Unexpected Temporary Cessation of Operations	4-2
	4.2.2 Planned Permanent or Premature Cessation of Operations	
	4.2.3 Unexpected Permanent Cessation of Operations	
	4.3 Decommissioning and Demolition of Exiting South Bay Power Plant	
5.	Electric Transmission and Interconnection	5-1
	5.1 Introduction	5-1
	5.2 Electric Transmission Lines	
	5.2.1 Design	
	5.2.2 Construction	
	5.2.3 Routing	
	5.3 Substation Facilities	
	5.3.1 Design	
	5.4 Interconnection Studies	
	5.5 Transmission Line Safety and Nuisance	
	5.5.1 Existing Conditions	
	5.5.2 Electrical Effects	
	5.5.3 EMF and Audible Noise Assessment - Assumptions and Calculations	
	5.5.4 EMF and Audible Noise Assessment - Results	
	5.5.5 Conclusion on EMF and Audible Noise	
	5.5.6 Mitigation Measures	
	5.6 Applicable Laws, Ordinances, Regulations, and Standards (LORS)	
	5.6.1 Design and Construction	
	5.6.2 Electric and Magnetic Fields	
	5.6.3 Hazardous Shock	
	5.6.4 Communications Interference	
	5.6.5 Fire Hazards	
	5.6.6 Jurisdiction	
	5.7 References	5-19
6.	Natural Gas Supply	
	6.1 Introduction	
	6.1.1 Natural Gas Availability	
	6.2 Proposed Route	
	6.3 Construction Practices	
	6.3.1 Gas Pipeline	
	6.3.2 Metering Station	
	6.4 Pipeline Operations	6-4
7.	Water Supply	
	7.1 Water Supply and Use	
	7.2 Water Quality	
	7.3 Water Treatment	
	7.4 Wastewater Collection and Disposal	
	7.4.1 Sanitary Wastewater	7 - 3

		7.4.2 Plant Process Water Drainage	7-3
		7.4.3 Steam Cycle Blowdown	
		7.4.4 Cycle Makeup Treatment	
8.	0 Env	ironmental Information	8-1
	8.1	Air Quality	8.1-1
		8.1.1 Air Quality Setting	
		8.1.2 Overview of Air Quality Standards	
		8.1.3 Existing Air Quality	
		8.1.4 Affected Environment	
		8.1.5 Environmental Analysis	8.1-29
		8.1.6 Consistency with Laws, Ordinances, Regulations, and Standards	8.1-51
		8.1.7 Cumulative Air Quality Impacts Analysis	
		8.1.8 Mitigation	8.1-56
		8.1.9 References	8.1-57
	8.2	Biological Resources	8.2-1
		8.2.1 Introduction	
		8.2.2 Applicable Laws, Ordinances, Regulations, and Standards	8.2-2
		8.2.3 Environmental Setting	
		8.2.4 Environmental Analysis	8.2-27
		8.2.5 Proposed Mitigation and Monitoring	8.2-40
		8.2.6 Involved Agencies and Agency Contacts	8.2-43
		8.2.7 Required Permits and Permit Schedule	8.2-44
		8.2.8 References	8.2-45
	8.3	Cultural Resources	8.3-1
		8.3.1 Introduction	8.3-1
		8.3.2 Laws, Ordinances, Regulations, and Standards	
		8.3.3 Affected Environment	
		8.3.4 Environmental Analysis	8.3-14
		8.3.5 Cumulative Effects	8.3-14
		8.3.6 Mitigation Measures	8.3-14
		8.3.7 Involved Agencies and Agency Contacts	8.3-17
		8.3.8 Permits Required and Schedule	8.3-17
		8.3.9 References	8.3-17
	8.4	Land Use	8.4-1
		8.4.1 Introduction	8.4-1
		8.4.2 Laws, Ordinances, Regulations, and Standards	8.4-3
		8.4.3 Affected Environment	
		8.4.4 Future Growth Trends	
		8.4.5 Recent Discretionary Reviews by Public Agencies	8.4-20
		8.4.6 Environmental Analysis	
		8.4.7 Cumulative Impacts	8.4-25
		8.4.8 Mitigation Measures	8.4-26

	8.4.9 P	ermits and Agency Contacts	8.4-26
		References	
0.5	NT-:		0 5 1
8.5		T . 1	
	8.5.1	Introduction	
	8.5.2	Fundamentals of Acoustics	
	8.5.3	Laws, Ordinances, Regulations, and Standards	
	8.5.4	Affected Environment	
	8.5.5	Environmental Consequences	
		Noise Mitigation Measures and Reduction Design Features	
	8.5.7	Involved Agencies and Agency Contacts	
	8.5.8	Permits Required and Permit Schedule	
	8.5.9	References	8.5-42
8.6	Public He	ealth	8.6-1
	8.6.1 Iı	ntroduction	8.6-2
	8.6.2 L	aws, Ordinances, Regulations and Standards	8.6-3
		Affected Environment	
		litigation Measures	
		nvolved Agencies and Agency Contacts	
		ermits Required and Schedule	
		References	
87	Worker L	Iealth and Safety	Q 7 1
0.7		ntroduction	
		aws, Ordinances, Regulations, and Standards	
		mpacts	
		nvolved Agencies and Agency Contacts	
	8.7.5 P	Permits Required and Permit Schedule	8.7-22
8.8	Socioecor	nomics	8.8-1
	8.8.1 Iı	ntroduction	8.8-1
	8.8.2 L	aws, Ordinances, Regulations, and Standards	8.8-2
		Affected Environment	
	8.8.4 E	nvironmental Consequences	8.8-14
		Cumulative Impacts	
		nvironmental Justice	
		litigation Measures	
		nvolved Agencies and Agency Contacts	
		References	
g Ω	A oniou1	turo and Soils	0 0 1
8.9	8.9.1	ture and Soils	
		Introduction	
	8.9.2	Applicable Laws, Ordinances, Regulations, and Standards	
	8.9.3	Environmental Setting	
	8.9.4	Potential Environmental Analysis	
	8.9.5	Mitigation Measures	8.9-18

8.9	9.6 Permits and Agency Contacts	8.9-19
8.9	9.7 References	8.9-20
0.10 Tue	(Constant Transportation	0 1 0 1
	ffic and Transportation	
	10.1 Introduction	
	10.2 Laws, Ordinances, Regulations and Standards	
	10.3 Affected Environment	
	10.4 Environmental Analysis	
	10.5 Cumulative Impacts	
	10.6 Mitigation Measures	
	10.7 Permits and Permitting Schedule	
8.	10.8 References	8.10-25
8.11 Visual	Resources	8.11-1
8.11.1	Introduction	8.11-1
	8.11.1.1 Addressing Visual Design Issues	
8.11.2	Affected Environment	
	8.11.2.1 Visual Setting	
	8.11.2.2 Visual History	
	8.11.2.3 Landscape Units	
	8.11.2.4 Adjacent Land Uses	
	8.11.2.6 Existing Substation and Transmission Lines	
	8.11.2.7 Existing SBPP	
	8.11.2.8 Existing Nighttime Lighting	
	8.11.2.9 Local Weather as It Affects Visibility	
	8.11.2.10 Existing Visible Water Droplet Plume	
	8.11.2.11 Existing Viewshed Analysis	
	8.11.2.12 Visibility of SBPP from the Surrounding Vicinity	
	8.11.2.13 Relevant Plans and Policies	
8.11.3	Environmental Consequences	8.11-36
	8.11.3.1 Significance Criteria	
	8.11.3.2 The South Bay Replacement Project	
	8.11.3.3 Design Improvements Incorporated into the Project	
	8.11.3.4 Night Lighting	
	8.11.3.5 Visible Water Droplet Plume with the Project	
	8.11.3.6 Viewshed Analysis	
	8.11.3.7 Selection of KOPs	
	8.11.3.8 KOP Characteristics and Existing Conditions	8.11-50
	8.11.3.9 KOP Analysis Criteria	
	8.11.3.10 KOP Analysis	
8.11.4	Impact Significance	8.11-91
	8.11.4.1 Overall Visual Assessment	
	8.11.4.2 Determination of Significance	
8.11.5	Cumulative Impacts	
	Mitigation Measures	
	Laws, Ordinances, Regulations & Standards	
	8 11 7 1 Introduction	

8.11.7.2 Chula Vista General Plan	8.11-96
8.11.7.3 Chula Vista Bayfront Master Plan	8.11-99
8.11.7.4 Chula Vista Landscape Manual	
8.11.7.5 Chula Vista Design Manual	
8.11.7.6 Chula Vista Municipal Code	
8.11.7.7 San Diego United Port District Master Plan	
8.11.7.8 California State Scenic Highway Program	
8.11.7.9 California Coastal Act	
8.11.7.10 Summary of Consistency with Applicable LORS	
8.11.8 References	
8.12 Hazardous Materials Handling	8.12-1
8.12.1 Introduction	
8.12.2 Laws, Ordinances, Regulations, and Standards	
8.12.3 Affected Environment	
8.12.4 Potential Environmental and Human Health Effects	
8.12.5 Offsite Consequence Analysis	
8.12.6 Fire and Explosion Risk	
8.12.7 Cumulative Impacts	
8.12.8 Proposed Mitigation Measures	
8.12.9 Involved Agencies and Agency Contacts	
8.12.10 Permits, Permit Schedule, and Agency Contacts	
8.12.11 References	
8.13 Waste Management	8.13-1
8.13.1 Laws, Ordinances, Regulations, and Standards	
8.13.2 Environmental Condition of Site	
8.13.3 Project Waste Generation	
8.13.4 Waste Disposal Sites	
8.13.5 Waste Management Methods and Mitigation	
8.13.6 Cumulative Impacts	
8.13.7 Monitoring	
8.13.8 Involved Agencies	
8.13.9 Permits Required and Permit Schedule	
8.13.10 References.	
0.120.10 1.010.21.000	
8.14 Water Resources	8.14-1
8.14.1 Introduction	
8.14.2 Applicable Laws, Ordinances, Regulations, and Standards.	
8.14.3 Hydrologic Setting	
8.14.4 Water Use and Disposal	
8.14.5 Precipitation, Stormwater Runoff, and Drainage	
8.14.6 Effects on Water Resources	
8.14.7 Mitigation	
8.14.8 Proposed Monitoring Plans and Compliance Verification	
Procedures	8.14-12
8.14.9 Cumulative Impacts	
	······································

	8.14.10 Permits Required and Agencies Consulted	8.14-12
	8.14.11 References	
	8.15 Geologic Hazards and Resources	8.15-1
	8.15.1 Introduction	
	8.15.2 Laws, Ordinances, Regulations, and Standards	
	8.15.3 Affected Environment	
	8.15.4 Environmental Impacts	8.15-7
	8.15.5 Mitigation Measures	
	8.15.6 Involved Agencies and Agency Contacts	
	8.15.7 Permits Required and Permit Schedule	
	8.15.8 References	
	8.16 Paleontological Resources	8.16-1
	8.16.1 Introduction	8.16-1
	8.16.2 Affected Environment	8.16-5
	8.16.3 Environmental Analysis	8.16-12
	8.16.4 Cumulative Impacts	8.16-14
	8.16.5 Mitigation Measures	
	8.16.6 Involved Agencies and Agency Contacts	8.16-16
	8.16.7 Permits Required and Permit Schedule	
	8.16.8 References	8.16-16
9.	Alternatives Analysis	9-1
	9.1 Alternatives Analysis Requirements	9-2
	9.2 Selection of Alternatives to Be Evaluated	
	9.3 No Project Alternative	
	9.3.1 RMR Assessment	
	9.3.2 Energy and Capacity Issues	
	9.3.3 Other Issues	
	9.4 Transmission Alternative Description	
	9.4.1 Reasonable Timing of the Transmission Alternative	
	9.4.2 Reasonable Range of Available Generation	
	9.4.3 Other Issues	
	9.5 Power Plant Site Alternatives	
	9.5.1 Introduction	
	9.5.2 Methodology Used in Evaluating Potential Power Plant Sites	
	9.5.3 Summary of Alternative Site Screening Results	
	9.5.4 Descriptions of Sites with Some Favorable Characteristics	
	9.6 Cooling Alternatives	
	9.6.1 Once-Through Cooling	
	9.6.2 Conventional Evaporative Cooling Tower	
	9.6.3 Natural-Draft Cooling Tower	9-19
	9.6.4 Dry Cooling (Air-Cooled Condenser)	
	9.6.5 Hybrid Wet/Dry System	
	9.6.6. Conclusion	
	9.7 Technology Alternatives	9-21

	9.7.1 Selection Methodology	9-21
	9.7.2 Alternative Natural Gas-Fired Technologies	
	9.7.3 Fuel Alternatives	
	ngineering	
	.1 Introduction	
	.2 Facility Design	
10.	.3 Facility Reliability	
	10.3.1 Fuel Availability	
	10.3.2 Plant Availability	
10.	.4 Thermal Efficiency	10-3
Appe	endixes	
1A	Memorandum of Understanding	
1B	Property Owners	
1C	Persons Who Prepared the AFC	
2A	Annual Aggregate Energy Resource Accounting Tables	
2B	SBPP Working Group Final Report and PowerPoint Presentation	
2C	News Release	
2D	Major Equipment List	
5A	System Impact Study	
5B	CAISO Letter	
5C	Draft Facility Study	
5D	LSP Comments on Draft Facility Study	
5E	SDG&E Concurrence on Substation Layout	
5F	Progression of Transmission Segments and Stages	
5G	ENVIRO Output Files	
6A	SDG&E Gas Interconnect Proposal	
8.1A	Quarterly Wind Roses and Wind Frequency Distributions	
8.1B	Emissions and Operating Parameters	
8.1C	Top-Down Evaluation of Best Available Control Technology	
8.1D	Modeling Analysis	
8.1E	HARP Model Risk Assessment Module Output	
8.1F	Construction and Demolition Emissions and Impact Analysis	
8.1G	Offset Requirements	
8.1H	Cumulative Impacts Analysis Protocol	
8.1I	Modeling Protocol	
8.2A	Special-Status Species Lists	
8.2B	Resumes of Biology Staff	
8.2C	California Native Species and Natural Community Field Survey Forms	3
8.2D	Outline of Draft Biological Resources Mitigation Implementation and Plan	Monitoring

8.3A 8.3B 8.3C 8.3D	Copies of Agency Consultation Letters Resume of Cultural Staff Architectural Report Confidential Appendix CHRIS Record Search
8.4A	Pertinent Policies to the SBRP
8.5A 8.5B 8.5C	AFC Ambient Noise Survey Details and Results Construction and Demolition Noise Analysis Power Plant Predictive Noise Modeling and Analysis
8.6A 8.6B	Sensitive Receptors USGS Topographic Maps
8.8A 8.8B	Environmental Justice Copies of the Records of Conversation
8.11A	Architectural Design Study
8.12A	Offsite Consequence Analysis
8.13A	Environmental Due Diligence
8.14A	Draft Construction Drainage, Erosion, and Sediment Control / Stormwater Pollution Prevention Plan
8.14B 8.14C	Sweetwater Will Serve Letter Chula Vista Will Serve Letter
8.15A	Preliminary Geotechnical Report
8.16A	Paleontological Records Search and Literature Review (Confidential)
10.1 10.2 10.3 10.4 10.5 10.6	Civil Engineering Design Criteria Structural Engineering Design Criteria Mechanical Engineering Design Criteria Electrical Engineering Design Criteria Control Engineering Design Criteria Geotechnical Foundation Analysis
Tables	S
1.7-1 1.14-1 1.14-2 2.1-1	Activities by Project Phase Improved Use of Environmental Resources SBPP vs. SBRP Emissions Efficiency Comparison Phases Activities Roles and Responsibilities and Approximate Impacted Acrosco
2.1-2 2.2-1	Phases, Activities, Roles and Responsibilities, and Approximate Impacted Acreage Explanation of the Interim and Final Interconnection Facilities Improved Use of Environmental Resources
2.2-2 2.2-3	Upfront Construction Costs Recycled to Local Economy* Yearly estimate of on-going Fees, Payments, Payrolls and Other Costs of Producing Electricity at the New SBRP Recycled to Local Economy
2.2-4 2.2-5	SBPP vs SBRP Emissions Efficiency Comparison Changes to Import Capability Due to Project

- 2.2-6 South Bay Replacement Project Impact on SDG&E System Losses
- 2.2-7 Sources of information pertaining to the interconnection process
- 2.2-7 Sources of information pertaining to the interconnection process
- 2.3-1 Daily Water Supply Requirements
- 2.3-2 Annual Water Consumption
- 2.3-3 Expected Potable Water Quality
- 2.3-4 Expected Plant Wastewater Quality (mg/l, as such except as noted)
- 2.3-5 Typical Natural Gas Analysis, South Bay Replacement Project
- 2.3-6 Plant Efficiency
- 2.3-7 Construction Personnel Requirements
- 2.3-8 Construction Equipment Usage
- 2.3-9 Construction Schedule For Truck Deliveries Of Equipment
- 2.3-10 Estimated Land Disturbance
- 2.3-11 Demolition Manpower and Equipment Usage
- 2.6-1 Required State and Regional Permits
- 2.6-2 Required Local Permits
- 5.5-1 Proximity to Public
- 5.5-2 EMF Computations
- 5.6-1 Design and Construction LORS
- 5.6-2 Electric and Magnetic Field LORS
- 5.6-3 Hazardous Shock LORS
- 5.6-4 Communications Interference LORS
- 5.6-5 Fire Hazard LORS
- 5.6-6 Iurisdiction
- 7.1-1 Average Water Usage from the Sweetwater Authority in Gallons per Minute (gpm)^a
- 7.2-1 Expected Potable Water Quality
- 8.1-1 Ambient Air Quality Standards
- 8.1-2 Ozone Levels in San Diego County, Chula Vista Monitoring Station, 1996-2005 (ppm)
- 8.1-3 Nitrogen Dioxide Levels in San Diego County, Chula Vista Monitoring Station, 1996-2005 (PPM)
- 8.1-4 Carbon Monoxide Levels in San Diego County, Chula Vista Monitoring Station, 1996-2005 (PPM)
- 8.1-5 Sulfur Dioxide Levels in San Diego County, Chula Vista Monitoring Station, 1996-2005 (PPM)
- 8.1-6 M₁₀ Levels in San Diego County, Chula Vista Monitoring Station, 1996-2005 (μg/m³)
- 8.1-7 PM_{2.5} Levels in San Diego County, Chula Vista Monitoring Station, 1996-2005 $(\mu g/m^3)$
- 8.1-8 Airborne Lead Levels in San Diego County, Chula Vista Monitoring Station, 1996-2005 (µg/m³)
- 8.1-9 Air Quality Agencies
- 8.1-10 SDAPCD BACT and LAER Emission Thresholds
- 8.1-11 SDAPCD Offset Emission Thresholds
- 8.1-12 SDAPCD AQIA Emission Thresholds *
- 8.1-13 SDAPCD Health Risk Thresholds
- 8.1-14 PSD Class II Increments *
- 8.1-15 Laws, Ordinances, Regulations, Standards, and Permits for Protection of Air Quality

- 8.1-16 Ambient Air Quality Standard Attainment Status in San Diego Air Basin
- 8.1-17 New GE 7FA Combined-Cycle Combustion Turbine Design Specifications
- 8.1-18 Nominal Fuel Properties Natural Gas
- 8.1-19 Maximum Facility Fuel Use (MMBtu)*
- 8.1-20 Maximum hourly Emission Rates: CTGs AND HRSGS
- 8.1-21 CTG Startup and Shutdown Emission Rates
- 8.1-22 Maximum Hourly Emission Rates: Auxiliary Boiler
- 8.1-23 maximum Emissions from new equipment
- 8.1-24 Comparison of SBPP and SBRP emissions with PSD major source thresholds
- 8.1-25 Comparison of SBRP emissions increases with PSD Significant Emission Levels
- 8.1-26 Non-criteria Pollutant Emissions for the Project
- 8.1-27 Air Quality Modeling Results
- 8.1-28 Modeled Impacts During Commissioning
- 8.1-29 Maximum Background Concentrations, Chula Vista, 2003-2005 (μG/M³)
- 8.1-30 Modeled Maximum Impacts^A
- 8.1-31 Comparison of Maximum Modeled Impacts and PSD Significant Impact Levels
- 8.1-32 Potential Health Risks from the Operation of SBRP
- 8.1-33 SDAPCD BACT Emission Thresholds
- 8.1-34 SDAPCD Nonattainment Pollutant Offset Emission Thresholds (tpy)
- 8.1-35 Comparison of Ozone and PM₁₀ Precursor Emissions from SBPP and SBRP (tpy)
- 8.1-36 Compliance with 40 CFR 60 Subpart KKKK
- 8.2-5 Agency Contacts for the SBRP Project
- 8.2-6 Required Permits and Schedule
- 8.2-1 Laws, Ordinances, Regulations, and Standards Applicable to SBRP Biological Resources.
- 8.2-2 Plants Observed On-site (organized alphabetically by Taxonomic Family)
- 8.2-3 Wildlife Species Observed on or Near the Project Area by CH2M HILL Biologists during Field Surveys in 2005 and 2006
- 8.2-4 Special-Status Species Known to Occur or Have Potential to Occur on or Adjacent to the SBPP and SBRP Sites.
- 8.3-1 Applicable Cultural Resource Laws, Ordinances, Regulations, and Standards
- 8.3-2 Authors (Dates) and CHRIS/SCIC Catalog Number for Cultural Resource Investigation Reports
- 8.3-3 Summary of Sites within 1 mile of the Project Area of Potential Effects
- 8.3-4 Agency Contacts
- 8.4-1 Agencies with Land Use Policies Pertinent to Each Component of the SBRP
- 8.4-2 Chapter 8, Ports, of the CCC Coastal Act Policies Applicable to SBRP
- 8.4-3 General Plan Land Use Designations in the Project Vicinity
- 8.4-4 Existing Land Uses and Zoning Designations
- 8.4-6 Cumulative Project List from the San Diego Unified Port District
- 8.4-7 Permits, Approvals or Coordination Required
- 8.5-1 Definitions of Acoustical Terms
- 8.5-2 Typical Sound Levels Measured in the Environment and Industry
- 8.5-3 Applicable Laws, Ordinances, Regulations, and Standards
- 8.5-4 Recommended Noise Standards for the Bay Front Master Plan Areas Adjacent to the Project Site
- 8.5-5 Noise Standards for the City of Chula Vista

- 8.5-6 Summary of AFC Ambient Measurement Locations and Relevance
- 8.5-7 Summary of Long-term AFC Ambient Measurement Results
- 8.5-8 Summary of Short-term AFC Ambient Measurement Results
- 8.5s-6 Summary of 24-hour Ambient Noise Level Metrics, A-wtd Sound Pressure Level
- 8.5-9 Summary of AFC Ambient Noise Environments
- 8.5-10 Comparison of Synthesized SBPP Noise Contributions to Measured Ambient Noise Environments
- 8.5-11 Noise Levels from Common Construction Equipment at Various Distances
- 8.5-13 Comparison of Predicted Noise Levels from South Bay Demolition Activities to Existing Ambient Sound Levels
- 8.5-14 Comparison of Predicted Noise Levels from SBRP Construction Activities to Existing Ambient Sound Levels
- 8.5-15 Comparison of Predicted Noise Levels from SBRP Operations to Existing Ambient Sound Levels, with respect to the CEC's +5 dB criterion
- 8.5-16 Comparison of Predicted Noise Levels from SBRP On-Going Operations to City of Chula Vista Noise Level Limits
- 8.5-14 Agency Contacts
- 8.6-1 Laws, Ordinances, Regulations, and Standards
- 8.6-2 Top Ten Non-criteria Pollutants Emitted by All Sources in the San Diego Air Basin
- 8.6-3 Pollutants Potentially Emitted to the Air from the SBRP
- 8.6-4 Toxicity Values Used to Characterize Health Risks
- 8.6-5 Summary of Potential Health Risks
- 8.6-6 Summary of Agency Contacts for Public Health
- 8.7-1 Federal Laws, Ordinances, Regulations, and Standards
- 8.7-2 State Laws, Ordinances, Regulations, and Standards
- 8.7-3 Local Laws, Ordinances, Regulations, and Standards
- 8.7-4 Applicable National Consensus Standards
- 8.7-5 Demolition and Construction Hazard Analysis
- 8.7-6 Operation Hazard Analysis
- 8.7-7 Demolition and Construction Training Program
- 8.7-8 Operations Training Program
- 8.7-9 Agency Contacts
- 8.7-10 Health and Safety Permits
- 8.8-1 Laws, Ordinances, Regulations, and Standards Applicable to SBRP Socioeconomics
- 8.8-2 Historical and Projected Populations^a
- 8.8-3 Historical and Projected Annual Average Compounded Population Growth Rates
- 8.8-6 Housing Estimates by City, County, and State, January 1, 2006
- 8.8-7 Employment Distribution in San Diego County, 2000 to 2005
- 8.8-8 Employment Data, 2005
- 8.8-9 San Diego County Revenues and Expenditures (\$ Million)
- 8.8-10 City of Chula Vista Revenues and Expenditures
- 8.8-11 Current and Projected Enrollment by Grade
- 8.8-12 Construction Personnel by Month
- 8.8-13 Labor Union Contacts
- 8.8-14 Available Labor by Skill in San Diego County, 2002 to 2012
- 8.8-15 Phase 1 Impacts to Local Economy and Employment (Annual)
- 8.8-16 Phase 2 Impacts to Local Economy and Employment

- 8.8-17 Phase 3 Impacts to Local Economy and Employment
- 8.8-18 Summary of Economic Impacts from Construction
- 8.8-19 Typical Plant Operation Workforce
- 8.8-20 Comparison of SBPP and SBRP Annual Operational Impacts
- 8.8-21 Agencies and Agency Contacts for SBRP Socioeconomics
- 8.9-1 Laws, Ordinances, Regulations, and Standards (LORS) for Agricultural and Soil Resources
- 8.9-2 Soil Mapping Unit Descriptions and characteristics
- 8.9-3 Estimate of Soil Loss by Water Erosion Using Revised Universal Soil Loss Equation (RUSLE2)
- 8.9-4 Mitigation Measures for Fugitive Dust Emissions
- 8.9-5 Estimates of Total Suspended Particulates (TSP) Emitted from Grading and Wind Erosion
- 8.9-6 Permits and Agency Contacts for SBRP Agriculture and Soils
- 8.11-1 Distance Zones and Population (Existing SBPP)
- 8.11-2 Average Weekday Traffic Counts in Project Area
- 8.11-3 Stack Visibility
- 8.11-4 List of Key Observation Points
- 8.11-5 Summary of Visual Effects from KOPs
- 8.11-6 Laws, Ordinances, Regulations, and Standards Applicable to the Project
- 8.11-7 Conformity of the SBRP Project with the Chula Vista General Plan and the Draft Bayfront General Plan
- 8.11-8 Conformity of the SBRP with the Chula Vista General Plan and the Draft Bayfront Master Plan
- 8.11-9 Conformity of the SBRP with the Chula Vista Landscape Manual
- 8.11-10 Conformity of the SBRP with the Chula Vista Design Manual
- 8.11-11 Conformity of the SBRP with the Chula Vista Municipal Code
- 8.11-12 Conformity of the SBRP with the San Diego Unified Port District Master Plan
- 8.11-13 Conformity of the SBRP with the California State Scenic Highway Program
- 8.11-14 Conformity of the SBRP with the California Coastal Act
- 8.10-1 SBRP Compliance with Laws, Ordinances, Regulations, and Standards
- 8.10-2 Level of Service Criteria for Roadways
- 8.10-3 Existing Traffic Characteristics for Roadways Serving SBRP
- 8.10-4 Total Daily Construction and Demolition-Related Vehicle Trip Generation at the Project Site^a
- 8.10-5 Construction/Demolition Traffic Characteristics for Roadways Serving SBRP
- 8.10-6 Estimated Truck Traffic During the SBRP Operation and Existing Truck Traffic at the SBPP
- 8.10-7 Permits and Permit Schedule for SBRP Traffic and Transportation
- 8.12-1 Applicable Laws, Ordinances, Regulations, and Standards
- 8.12-6 Gaseous Ammonia Concentrations in the Event of a Release
- 8.12-8 Agency Contacts for SBRP Hazardous Materials Handling
- 8.12-9 Permits Required and Permit Schedule for SBRP Hazardous Material Handling
- 8.12-2 Use and Location of Hazardous Materials
- 8.12-3 SBRP Chemical Inventory
- 8.12-4 Toxic Effects and Exposure Levels of Regulated Substances Exceeding TQs
- 8.12-5 Toxicity of Hazardous Materials

8.13-1	Laws, Ordinances, Regulations, and Standards Applicable to SBRP Waste Management
8.13-2	Wastes Generated during the Construction Phase at the SBRP Facility
	Hazardous Wastes Generated at the SBRP Facility During Operation
	Solid Waste Disposal Facilities in the Vicinity of the SBRP Project
8.13-5	Agency Contacts for SBRP Waste Management
8.13-6	Permits Required and Permit Schedule for SBRP Waste Management
	Laws, Ordinances, Regulations, and Standards Applicable to SBRP Water Resources
8.14-2	Average Water Usage from the Sweetwater Authority in Gallons per Minute (gpm) ^a
8.14-4	Permits and Permitting Agencies for SBRP Water Resources
8.15-1	Laws, Ordinances, Regulations, and Standards
	Summary of Potential Geologic Hazards
8.16-1	LORS Regarding Paleontological Resources
8.16-2	Definitions of Paleontological Sensitivity Ratings Employed in this Assessment
	(adopted from the Sweetwater Authority, 2003).
9.3-1	Assessment of San Diego RMR Needs
9.3-2	SDG&E Grid Reliability Analysis (Assumes South Bay Retired by 2010)
9.4-2	SDG&E Grid Reliability Analysis (South Bay and Encina Retired)
9.5-1	Comparison of Alternative Sites
9.7-1	Maximum Steady State Emission Rates for a 100 MW Simple Cycle Peaking
	Facility – Each CTG
9.7-2	Comparison of the Smaller Peaking Project's and SRPF Air Emissions
Figure	
_	
1.1-1	SBEF Vicinity Map
1.4-1	Project Site and Linear Facilities Location
1.4-2	Appearance of Site Before Construction
1.4-3	Appearance of Site After Construction
1.6-1	Project Schedule
2.1-1	Regional Location Map
2.1-2	Project Site Location
2.1-3	SBEF Project Site and Linear Facilities Location Map
2.1-4	Chula Bay Front Master Plan Proposed Zoning Designations
2.1-5	Bay Front Development Concept
2.3-1	Site elevations
2.3-2	Site Elevations
2.3-3	Site Elevations
2.3-4	Site Elevations
2.3-5	Three Dimensional Views of the SBRP
2.3-6	Three Dimensional Views of the SBRP
2.3-7	Three Dimensional Views of the SBRP
2.3-8	Three Dimensional Views of the SBRP
2.3-9	Interim Layout of the Substation
2.3-9	Interim Layout of the Substation
2.3-10	Final layout for the relocated SDG&E South Bay substation
2.3-10	Final layout for the relocated SDG&E South Bay substation
2.3-10	site arrangement

2.3-11	Overall One-line Diagram for the Relocated SDG&E South Bay Substation at
	Full Build-out
2.3-12	Daily and Annual Maximum Water Uses
2.3-13	Site Grading and Drainage Plans
2.3-14	Site Grading and Drainage Plans
2.3-15	Site Grading and Drainage Plans
2.3-16	Site Grading and Drainage Plans
2.3-17	Site Grading and Drainage Plans
2.3-18	Site Grading and Drainage Plans
2.3-19	Site Grading and Drainage Plans
2.3-20	Erosion and Sediment Control Plan
2.3-21	Erosion and Sediment Control Plan
2.3-22	Erosion and Sediment Control Plan
2.3-23	Erosion and Sediment Control Plan
2.3-24	Site Construction Facilities Plan (Construction Parking Areas)
2.3-25	Transmission System Interconnection (One Line Diagrams)
2.3-26	Transmission System Interconnection (One Line Diagrams)
5.1-1	Transmission Interconnection One-Line Interim Condition
5.1-2	Transmission Interconnection One-Line Final Condition
5.2-1	Preferred Interim Transmission Interconnection
5.2-2	Alternate Interim Transmission Connection
5.5-1	Transmission Segments and Stages
5.5-2	EMF Cross-Sections Segment A before and after Case
5.5-3	EMF Cross-Sections Segment C before Case
5.5-4	EMF Cross-Sections Segment C after Case
5.5-5	EMF Cross-Sections Segment D before and after Case
6.1	San Diego Gas & Electric's Natural Gas Distribution System
8.1-1	1990 Annual Wind Rose, Lindbergh Field, San Diego, CA
8.1-2	January Predominant Mean Circulation of the Surface Winds
8.1-3	April Predominant Mean Circulation of the Surface Winds
8.1-4	July Predominant Circulation of the Surface Winds
8.1-5	October Predominant Mean Circulation of the Surface Winds
8.1-6	Maximum 1-Hour Average Ozone Levels
8.1-7	3-Year Average 4th Highest 8-Hour Average Ozone Levels
8.1-8	Maximum 1-Hour Average NO ₂ Levels
8.1-9	Annual Average NO ₂ Levels
8.1-10	Maximum 1-Hour Average CO Levels
8.1-11	Maximum 8-Hour Average CO Levels
8.1-12	Maximum 24-Hour Average SO ₂ Levels
	S C C C C C C C C C C C C C C C C C C C
8.1-13	Maximum 24-Hour Average PM ₁₀ Levels Expected Violations of the California 24 Hour PM ₁₀ Standard (50ug/m²)
8.1-14	Expected Violations of the California 24-Hour PM ₁₀ Standard (50μg/m ³)
8.1-15	Annual Average PM ₁₀ Levels
8.1-16	Annual Average PM _{2.5} Levels
8.1-17	Maximum 24-Hour Average PM _{2.5} Levels
8.2	Special-Status Species and Critical Habitat Locations

8.2-2a 8.2-2b 8.2-2c 8.2-2d 8.2-2e 8.2-2f 8.2-2g 8.2-2h 8.2-3	Biological Resources within 1 Mile of the Site Water Resources
8.3-1	Ethnographic Distribution in Project Area
8.4-1 8.4-2 8.4-3 8.4-4	Land Use Designations for the Port of San Diego Proposed Land Use Designations from the Bay Front Master Plan Land Use Diagram Zoning Map
8.5-1 8.5-2 8.5-3 8.5-4 8.5-5 8.5-6 8.5-7	Ambient Noise Survey Locations Ambient Survey – Sound Level History Record Ambient Survey – Spectral Samples Synthesized model of existing conditions Demolition and construction noise impact analysis locations Full Load Operations Final Substation Configuration Noise Difference Map SBPP Noise Minus SBRP Noise
8.6-1 8.6-2 8.6-3	Nearest Residential Receptor Location of Sensitive Receptors General Map of Terrain within 10 miles of SBRP
8.8-A1 8.8-A2	Minority Population Distribution by Census Blocks Within 6 Miles of SBEF Low Income Population Distribution by Census Block Groups Within 6 Miles of SBEF
8.9-1	Soils Near the Proposed Site
8.9-2	Important Farmlands Near the Proposed Site
8.10-1 8.10-2 8.10-3 8.10-4 8.10-5 8.10-6	SBEF Project Site and Linear Facilities Location Map Regional Transportation Facilities near the Project Site Proposed Projects Existing and Planned Facilities Existing Public Transportation Routes Trip Distribution
8.11-1 8.11-2 8.11-3 8.11-4 8.11-5 8.11-6 8.11-7	Ad Hoc Committee Meeting Photos 9-Step Visual Resource Methodology Flowchart Photograph from San Diego Historical Society Photos of the Power Plant in Various Stages of Development Landscape Units and Elevations Photos of Natural/Open Bayfront Coronado Cays

8.11-8	South Bay Salt Works
8.11-9	View Looking West from Foothills
8.11-10	Sweetwater and Otay River Valleys
8.11-11	Land Use and Population Segments
8.11-12	Existing Substation and Transmission Towers North of the SBPP
8.11-13	South Bay Power Plant (2000), South Side Looking North
8.11-14	South Bay Power Plant
8.11-15	View of South Bay Power Plant and Associated Structures from the Northwest
8.11-16	Nighttime View of the South Bay Power Plant
8.11-17	SBPP Visibility Reduction with Distance
8.11-18	View from Marina View Park, southwest corner of parking lot, looking
	southeast, from approximately 0.5 miles away
8.11-19	Views from Marina View Park, Looking South from Approximately 0.4 Mile
	Away and 0.3 Mile Away
8.11-20	View from J Street Freeway Entrance to Southbound I-5, Looking Southwest,
	from Approximately 0.4 Mile Away
8.11-21	View from Intersection of J Street and Woodlawn, Looking Southwest, from
	Approximately 0.6 Mile Away
8.11-22	View from West Side of the L Street Overpass Exit, Looking West, from
	Approximately 0.3 Miles Away
8.11-23	View from Trolley Tracks on Naples between Colorado and Industrial, Looking
	Northwest, from Approximately 0.7 Miles Away
8.11-24	View from the Intersection of L Street and Beech Avenue, Looking West, from
	Approximately 0.9 Miles Away
8.11-25	View from Cedar Avenue and Sierra Way, Looking Southwest, from
	Approximately 0.9 Miles Away
8.11-26	View from Vacant Lot on Palm Avenue, Just West of Lanao Way, Looking
	Northwest, from Approximately 2.5 Miles Away
8.11-27	View from Paloma Street at Tobias, Looking West from Approximately
	2.4 Miles Away
8.11-28	View from Commercial Parking Lot Immediately South of SBPP, Looking
	North, from Approximately 0.6 Miles Away
8.11-29	View from Stella Street, Off of Bay Boulevard, Looking Northwest, from
	Approximately 0.8 Miles Away
8.11-30	View from Intersection of Main Street and Frontage Road, Looking North, from
	Approximately 1.4 Miles Away
8.11-31	View from Intersection of Georgia Street and Donax Avenue in Imperial Beach,
	Looking North, from Approximately 2.3 Miles Away
8.11-32	View from Silver Strand near South Bay Marine Biology Study Area Overlook
	(in clear weather conditions), Looking East, from Approximately 1.8 Miles
	Away
8.11-33	View from South Bay Marine Biology Study Area Overlook (in hazy weather
	conditions), Looking East, from Approximately 1.8 Miles Away
8.11-34	View from Coronado Cays-Grand Caribe Isle (in hazy weather conditions),
	Looking Southeast, from Approximately 2.0 Miles Away
8.11-35	View from Coronado Cays-Grand Caribe Isle (in clear weather conditions),
	Looking Southeast, from Approximately 2.0 Miles Away

8.11-36	Computer-Generated Model of the SBRP
8.11-37	ACCs Located to the West along the Bayfront, Original Location
8.11-38	ACCs Located to the East, as Proposed
8.11-39	ACC Location within the Project Site, Stepping Down in Elevation to the Bay
8.11-40	Landscape Concept Plan
8.11-41	Plant Palette and Native Plant Materials
8.11-42	Non-native Plant Materials
8.11-43	Viewshed Analysis
8.11-44	Aerial KOP Locations
8.11-45	Topographic KOP Locations
8.11-46	Key Observation Point Analysis Criteria
8.11-47	Key Observation Point 1
8.11-48	Key Observation Point 2
8.11-49	Key Observation Point 3
8.11-50	Key Observation Point 4
8.11-51	Key Observation Point 5
8.11-52	Key Observation Point 6
8.11-53	Key Observation Point 7
8.11-54	Key Observation Point 8
8.12A	Offsite Consequence Analysis
8.14-1	Surface Waters Near Project Site
8.14-2	Groundwater Basins
8.14-3	100 Year Floodplain Map
8.14-4	Tsunami Inundation Boundary Map
8.14-5	Peak Water Balance Diagram
8.15-1	Area Geology Within Two Miles of SBEF
8.15-2	SBEF Project Site in Relation to Principal Fault
9 5-1	Location of Alternative Sites Considered